



SHORE POWER FACT SHEET 2013

Definition of Shore Power

While docked at port (“at-berth”), ocean-going vessels (ships) require power to maintain lights, heating and cooling, and other essential vessel functions. Typically, this power is provided by running the vessel's diesel-fueled auxiliary engines. Shore power (a.k.a. cold-ironing) is the process of providing electrical power from the shore to a vessel at berth, thereby allowing the auxiliary engines to be turned off. By plugging in and shutting off these engines, shore power virtually eliminates diesel emissions and other air pollutants that would otherwise come from running the vessel’s on-board auxiliary engines.

The History of Shore Power

The need for shore power comes from the response to growing public demand in California and internationally to reduce air pollutants caused by diesel-fueled engines, including ocean-going vessels at-berth. In 2008, the California Air Resources Board adopted a regulation (Section 2299.3, Title 13, Chapter 5.1 and Section 93118.3, Title 17, Chapter 1, Subchapter 7.5, of the California Code of Regulations) to require reductions of air pollutants from ocean-going vessels. This regulation, commonly referred to as the “shore power regulation” requires that all operators of container, passenger and refrigerated cargo vessels that visit California ports more than 25 times a year employ an emission reduction system for their fleet by Jan. 1, 2014. (*Reference materials at www.arb.ca.gov*). California is the only U.S. state with this type of regulation.

Why Shore Power?

Infrastructure that provides electricity from the land-to-vessel (i.e., shore power) was the only technology sufficiently developed from a technical perspective to put in place for vessel fleets to comply with the CARB regulation. The Port of Oakland took on the cost and burden of installing shore power to assist its maritime tenants and customers with the financial and operational challenge of complying with California’s new regulation and to dramatically reduce air pollutants

Shore Power at the Port of Oakland

Shore power at the Port of Oakland is a two-phase, multi-year program covering eleven berths on six terminals. Phase one included infrastructure (substations, plugs, conduit, etc.) for three berths at the Oakland International Container Terminal – OICT - operated by SSAT), as well as common infrastructure that serves multiple terminals. Phase one is complete.

Phase two is the larger phase (8 berths) and includes additional infrastructure installations at the OICT terminal, as well as shore power installations at the Ben E. Nutter (Evergreen), Howard, and TraPac terminals. Phase two construction of the Port's shore power infrastructure is complete. Additionally, two of the Port's tenants, American President Lines (APL) and PAOH received grants for their own shore power installations at three additional berths. Shore power installation at the former GGC/APL Terminal (now operated by SSAT, Berths 60-63) was completed in 2011, and shore power construction is being completed at PAOH (Berth 24).

Costs and Grant Funding

Since 2009, significant expenditures have taken place to install shore power infrastructure at the marine terminals. The Port of Oakland's estimated project cost is approximately \$60 million; the Port and private sector combined estimated cost for just the shore-side infrastructure is approximately \$70 million.

The Bay Area Air Quality Management District and U.S. Maritime Administration (MARAD) contributed \$12.8 million to the Port's shore power project; up to an additional approximate \$20 million were awarded to the Port by the California Air Resources Board (CARB) and the Metropolitan Transportation Commission (MTC)/Federal Highway Administration. In addition to the Port's investment, shipping lines that own and operate the vessels bear major additional costs associated with retrofitting the ocean-going vessels so that they can plug into shore power at berth.